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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Zhang et al.

Serial No. 10/035,846

Filed: December 24, 2001

For: Walsh Code Management in a Code Division Multiple Access
Cellular Wireless Communication System

Group No.: 2616

Examiner: Rhonda L. Murphy

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**ARGUMENT ACCOMPANYING THE
PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Sir:

Submitted with the Pre-Appeal Brief Request for Review are these arguments and remarks, which are being filed with the filing of a notice of appeal, accompanied by the appropriate fee, and before the filing of an appeal brief. Also submitted herewith is a petition for a one-month extension of time to extend the period of response to June 5, 2008.

A final office action had been mailed February 5, 2008 [hereinafter, "Final OA"], advising, in sum, that pending Claims 23-32 in this patent application stand rejected as being unpatentable as obvious under 35 USC § 103(a), specifically that:

Claims 23-27 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,160,798, to Reed et al. ("Reed").

Claims 28-32 were rejected under 35 U.S.C. 103(a) as being unpatentable over Reed in view of U.S. Published Application No. 2005/0221828 to Wakuta et al. ("Wakuta").

(*see* Final OA at page 3, 6).

Applicant's Specification points out that in "a typical IS-95A or IS-95B system, 64 Walsh codes are available for use but at least three Walsh codes are dedicated for use with overhead channels. In IS-2000 systems either 64 or 128 Walsh codes are available, depending upon the implementation, with some of these also dedicated to overhead channels. During operation in which an average of 24 users is

supported and with which each user is in hand-off with in average of 2.5 sectors a total of 64 Walsh codes would be required. *This operational example would fully deplete the available Walsh codes if 64 Walsh codes were available. When all Walsh codes are used for servicing calls for a set of mobile terminals, new call setup and new hand-offs are blocked.*” (Specification at page 4, *ll.* 17-24).

Accordingly, Applicant’s Specification recites that “during some points in operation, the number of available Walsh codes will be reduced until a Walsh code availability threshold is met, i.e., the number of available Walsh codes is less than the Walsh code availability threshold. *When this occurs, the number of forward link transmissions that may be used for each hand-off is reduced.* From the maximum number to a lesser number, e-g., four or five. A forced reduction in the number of I links per call results in the release or non-use of some Walsh codes.” (Specification at page 5, *ll.* 14-19) (emphasis added).

In this regard, by way of example, Applicant’s Independent Claim 23 recites, *inter alia*, a “method for managing Walsh Codes in a Code Division Multiple Access (CDMA) cellular wireless communication system, the method comprises: allocating a number of Walsh Codes in the CDMA cellular wireless communication system to a group of cell(s) or sector(s); *setting a handoff participation limit* to a maximum participation limit, where the handoff participation *limit determines a maximum number of cells or sectors* that may participate in handoff with any serviced mobile terminal; *when an available number* of the number of Walsh Codes becomes less than a first Walsh Code availability threshold, *reducing the hand handoff participation limit to a first participation limit that is less than the maximum participation limit*; when an available number of the number of Walsh Codes becomes less than a second Walsh Code availability threshold, that is less than the first Walsh Code availability threshold, reducing the handoff participation limit to a second participation limit that is less than the first participation limit; and for any mobile terminal participating in handoff with a number of cells or sectors that exceeds the handoff participation limit, *terminating forward link transmissions from a corresponding number of servicing cell(s) or sector(s)* and releasing a corresponding number of Walsh Code(s).” (emphasis added).

1. Prima Facie showing of Obviousness not established because the cited references of Reed and Wakuta do not teach or suggest all of Applicant’s claim limitations

In general, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or

references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

Although the Supreme Court, in re-confirming the *Graham* factors, had admonished the use of the teaching-suggestion-motivation (TSM) test as an end of the obviousness inquiry, "[the Court] also recognized that [the teaching-suggestion-motivation (TSM) rationale] was one of a number of valid rationales that could be used to determine obviousness." MPEP § 2143 at 2100-118 (Rev. 6, Sept. 2007). Under this rationale, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Also, a finding is to be articulated that there was a reasonable expectation of success. MPEP § 2143 (G) at page 2100-138 (Rev. 6, Sept. 2007).

Further, *all claim limitations must be considered*. That is, "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious." MPEP § 2143.03 at page 2100-142 (Rev. 6, Sept. 2007) (citations omitted).

a. Hand-off accelerant of *Reed* lacks all elements of Applicant's Invention

Reed describes resource management in a radiotelephone network that is accomplished by load balancing. When it is determined that the network has become out of balance and that too many resources are being used at a particular cell site, the network causes handoff threshold parameters to be changed thereby causing mobile units to change the cell sites with which they are in soft handoff. This reduces the number of mobiles being supported by the overloaded cell site but does not affect the maximum number of cell sites to which each mobile can be in soft handoff. That is, Reed does not reduce the number of cell sites or sectors, but instead *replaces them with less resource burdened sites or sectors* to accelerate handoffs.

Under Reed, when the number of available user spreading codes fall below the threshold, "the process selects a subscriber unit having an established soft handoff link with *a second base station . . .*" (Reed Col. 7:10-15) (emphasis added). "Once the subscriber unit has been selected, the process *then increases reporting thresholds, such as T_{drop} , in the selected subscriber unit to increase the likelihood that . . .* the soft handoff linked with the resource limited base station will be eliminated." (Reed Col. 7:29-36) (emphasis added). That is, Reed recites encourages the mobile to transfer its soft handoff connection

from a resource limited base station to other soft handoff links of another base station. (*See* Reed Col. 8:14-36). The process of Reed recites substantiating a base station's resources with other base stations.

b. Handoff Threshold Variation of *Wakuta* similarly lacks all elements of Applicant's invention

Wakuta relates to a "method of handing off a mobile station in a mobile communication system including first and second wireless base stations, comprising the steps of: (a) varying a handoff threshold which is set in the mobile station, according to quality of a wireless link between the mobile station and the first wireless base station which currently controls the mobile station; and (b) handing off the mobile station from the first wireless base station to the second wireless base station, based on the handoff threshold." (Wakuta ¶ 0022) (emphasis added). That is, Wakuta varies the handoff threshold in each of the mobile stations. (Wakuta, ¶ 0057). Wakuta does not, *inter alia*, recite reducing the number links relating to sectors, but simply recites threshold variation for mobile station handoff.

c. In contrast to the cited references, Applicant's recited claim limitations relate to "link resource reduction"

The Office Action notes that Reed fails to explicitly disclose terminating a weakest forward link when the mobile terminal is in a five-way hand-off. (Office Action at page 5). Nevertheless, the Office Action ignores the claim limitations of Applicant's claims, dismissively stating without precedent or a cited reference that "it would have been obvious to one skilled in the art to adjust, vary, select or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value, so as to eliminate the weakest links in order to increase the available number of spreading codes." (Office Action at page 6). Applicant respectfully submits that the suggestion or motivation for this statement improperly stems from its own application. *In re Rouffet*, 149 F.3d 1350, 1357, (Fed. Cir. 1998); *see also In re Translogic Technology, Inc.*, 2007 U.S. App. LEXIS 23969 (Fed. Cir. Oct. 12, 2007) (a post *KSR International* case referring favorably to *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998)).

2. lack of prima facie showing of obviousness supported by the EPO counterpart case issuance over the Reed reference

Claims 23-32, are presented, are harmonized with the issued claims of Applicant's foreign counterpart, European Patent No. EP 1 466 493, entitled "Walsh Code Management in a Code Division Multiple Access Cellular Wireless Communication System," issued September 28, 2005, and claims priority to the present U.S. Patent Application.

The International Search Report of December 4, 2002, had noted, at that time, that the Reed reference was of “particular relevance.” The foreign counterpart nevertheless subsequently issued with the claims as presented. Accordingly, Applicant respectfully submits that the claims 23-32, as harmonized with the counterpart case, similarly overcome the reference of U.S. Patent No. 6,160,798 to Reed et al. (“Reed”).

3. Conclusion

Applicant respectfully submits that a *prima facie* case has not been established in that Reed does not teach or suggest all the claim limitations as set out in the method of Applicant’s Independent Claim 23. Furthermore, Applicant respectfully submits that there is no suggestion or motivation, either in Reed or in the knowledge generally available to one of ordinary skill in the art, to modify the hand-off accelerant of Reed to achieve Applicant’s claimed invention as set out in Claims 24-27 that depend directly or indirectly from Independent Claim 1.

Also, Applicant respectfully submits that there would be no suggestion or motivation, either in the handoff accelerant of Reed or the mobile station threshold device of Wakuta to achieve Applicant’s claimed invention as set out in its Independent Claim 28, or in Claims 29-32 that depend therefrom.

In view of the foregoing, the Applicant respectfully submits that Claims 23-32 are in condition for allowance, and respectfully requests allowance of such Claims.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Garlick Harrison & Markison Deposit Account No. 50-2126 (ref 13166RRUS01U). 37 CFR 1.136.

Respectfully submitted,

Date: June 5, 2008

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